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ON THE RHYTHM OF THE HEART OF THE FŒTUS IN UTERO, AND OF THE INFANT AFTER BIRTH.

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HAVING lately undertaken some investigations into one or two points connected with the fœtal circulation, I shall lay a brief summary of the results before the profession. It is to the kindness and courtesy of the late Master of the Rotundo Hospital, Dr. Shekelton, that I am indebted for most of my opportunities for research; and it gives me great pleasure thus publicly to return my warmest thanks to him and to his able and intelligent assistants, Dr. Sinclair and Dr. Atthill, for their active and careful co-operation.

No doubt the rhythm of the fœtal heart, and that of the infant after birth, as compared with that of the adult, is but a very small portion of the information to be obtained by a stethoscopic examination; but we must remember how much has been settled by preceding observers, and recorded in different publications; and I should think it a very unreasonable thing in me to attempt even a recapitulation of the present state of our knowledge upon the subject. But, so far as I can discover, comparatively little attention has been paid to the character and rhythm of the double sound of the fœtal heart. I have carefully consulted the authors whose writings I possess, and I have examined the historical sketch prefixed to the admirable work of M. Depaul; and from the discovery of the pulsations of the fœtal heart by the stethoscope by M. Mayor, of Geneva, in 1818, I find little or nothing on the exact subject of this paper stated by Kergaradec, Maygrier, Lenormaud, Foderè, Ulsamer, Lau, Haus, Desormeaux, Gardien, Ritgen, Carus, Fergusson, Naegelé, Bodson, Dubois, Monod, Winckel, Kennedy, Hohl, Montgomery, Kilian, &c., though on most other points they are full and accurate. They furnish most careful and valuable information of the position in which and the extent over which the pulsation of the fœtal heart is audible; the period of pregnancy at which it is first heard; the relative frequency at different periods; the value in the diagnosis of single or double pregnancy,

&c.; but they are defective in an exact specification of the number of sounds heard, and of their relative character and rhythm. The main points on which these authors, or the greater number of them, are agreed, and which concern our present inquiry, are the following:—

1st. That the pulsations of the fœtal heart range between 120 and 160 per minute; that they have been observed so low as 90 (in the normal state, when influenced by ergot, they may be much slower), and as high as 190 or 200. The average is probably about 136, as M. Naegelè, Jun., found, judging from 600 cases.

2nd. That "the beat is double"—but it is not generally specified whether the writer meant, as I suppose, that the "double beats" amount to 240 and upwards; and from some incidental expressions their meaning might seem doubtful.

3rd. The "double beat," or, more correctly, the double sound of the heart, is described by some as "short, quick, and regular; and by others likened to the ticking of a watch under the pillow. Kilian speaks of the "double pulsations" succeeding each other with the greatest rapidity.

4th. Very interesting observations have been recorded as to the fluctuating rapidity of the fœtal pulsations; as to the relation between their force and the strength of the fœtus; as to the extent of space in which they are audible; and the effect of the evacuation of the liquor amnii upon their intensity. On the former of these subjects there is but little difference of opinion, but on the latter a very wide one—Kilian believing that the pulsations are more distinct after the evacuation of the liquor amnii, and others that they are less so.

One writer there is, however, whose work is at once the fullest and the most minute, I mean M. Depaul, who has entered into the question of the double sounds and their rhythm with more detail; but as I have been obliged to differ from his opinion in one point, I have reserved my notice of his work until stating the results of my own observations.

But I would premise one or two remarks:—1. I use the term "pulsation of the heart" to signify its single action, just as we speak of the pulse meaning a single vibration; and for what has been termed its "double beat," "double pulsation," I substitute "double sound." 2. By the rhythm of the heart's action, I understand the relation of time which the two sounds bear to each other, and to the entire period occupied by a pulsation. 3. By way of establishing a standard of comparison, both as to the rhythm and the relative force of each sound, and also as a guide to the determining which is the first, and which the second sound, I beg attention to the following extract from the last edition of Dr. Carpenter's Treatise on Human Physiology. He observes:—"When the ear is applied over the cardiac region, during the natural movements of the heart, two successive sounds are heard, each pair of which corresponds with one pulsation; there is also an interval of

silence after each recurrence, and the sound that immediately follows this interval is known as the *first* sound, the other as the *second.* The *first* sound is dull and prolonged ; it is evidently synchronous with the impulse of the heart against the parietes of the chest, and also with the pulse as felt near the heart ; it must, therefore, be produced during the *ventricular* systole. The *second* sound, which is short and sharp, follows so immediately upon the conclusion of the first that it cannot take place during the auricular systole, as some have supposed, but must be assigned to the first stage of the ventricular diastole, when the auricles are also dilating. With regard to the relative duration of the two sounds, and of the interval, widely different estimates have been formed. Thus, Laennec considered the lengths of the periods of sound and silence to be respectively three fourths and one fourth of the interval between one pulse and another; by Dr. Williams, and by Barth and Roger, the relative lengths of these periods have been estimated at two thirds and one third ; whilst the recent experiments of Volkmann (made by adjusting two pendulums to vibrate precisely in the two periods) indicate that they are almost precisely equal." He adds in a note : " The difference between these two sounds is well expressed (as Dr. C. J. B. Williams has remarked) by articulating the syllables, tubb, dup."

Now, from this extract it appears that when the two sounds follow each other quickly, succeeded by an interval of rest, the sound recurring next after the interval of rest is to be considered the first sound ; and also, according to Volkmann, the rhythm may be expressed in figures by dividing the time which elapses from one pulsation to another into four portions, the two first representing the first and second sound, the two last the intervals of rest, thus, 1· 2· 3 4. Without entering upon the question of its absolute accuracy, it may at least serve as a general standard of comparison. Let me also observe, that I am quite aware that when this rhythmical action is changed as it may be in the adult, and as we shall see it is in infants, it may be extremely difficult sometimes to decide which is the first sound and which the second ; but where it is perceived, I believe that the rule laid down by Dr. Carpenter may be regarded as correct.

I shall now proceed to bring forward the results of observations made upon a considerable number of women and children in the Rotundo Hospital, merely observing that the women were all in the first stage of labor ; in some the pains were trivial and infrequent ; in others more severe and frequent ; but that in all, the examination was made during an interval of complete freedom from pain.

The situation in which the sounds of the fœtal heart are generally most clearly audible is about midway between the anterior superior spinous process of the ilium and the umbilicus, either on the left or right side, but much more frequently on the left side. If the stethoscope be applied in this situation, two sounds will be heard following each other with great quickness : the one loud,

distinct, and easily counted ; the other apparently quicker, shorter, and less loud or distinct, so that it is extremely difficult to count it ; to count both is scarcely possible, as they would amount to 240 or 280, being exactly double the number of pulsations. After examining some forty or fifty cases, I have met with but one case in which the loudness and distinctness of the two sounds were about equal ; in all the other cases they were unequal, as I have described them.

Now, which of these is to be considered the first sound ? If we are to take the analogy of the adult heart, we should fix upon the louder sound as being the first, and this is M. Depaul's opinion, who states that "the first is stronger and more sonorous than the second, which is sometimes so feeble that it is scarcely perceptible." But with this decision I cannot agree.

M. Depaul has observed, and my own observations confirm his accuracy, that "the interval which separates these double pulsations from each other is greater than that which separates the first and second sound."

Now, if Dr. Carpenter's rule be correct, as I believe, that the sound which immediately follows the longer interval of rest is the *first* sound of the heart ; then all our observations showed us that this was the quick, short, and less loud sound, which was instantly followed by the louder and more distinct *second* sound, and then by an interval of rest. After most carefully testing this opinion of M. Depaul, I can have no hesitation in stating my impression that it is incorrect, and in this I have the concurrence of Drs. M'Clintock, Sinclair and Atthill. I know of but one way of deciding this question conclusively, viz., by ascertaining with which of the two sounds the pulsation in the funis is synchronous : such a test would of course be difficult, and require great delicacy of observation, on account of the rapidity with which the two sounds succeed each other ; but if it were accurately performed, it would be conclusive. Drs. M'Clintock and Hardy are the only authors, as far as I know, who have remarked that the pulsation of a prolapsed funis corresponds to alternate sounds of the heart, but, unfortunately for my present purpose, they do not specify with which of the sounds it is synchronous. I venture to hope that some who may have the opportunity will not allow much time to elapse before they furnish us with information on this point.

Although my observations differ from those of M. Depaul, as to the first sound of the heart, I agree very nearly with him as to the rhythm. To my ear the two sounds of the heart follow each other instantly in almost all cases, and are succeeded by an interval of rest, about equal to the duration of the two sounds ; in fact, the rhythm is nearly that of the adult heart, and may be expressed as 1· 2· 3 4 ; if there is any difference, it appears to me that the interval between the first and second sounds is relatively less than in the adult ; but the difficulty of speaking precisely about such momentary occurrences will be easily understood.

Again, we found some differences in different patients, as was to be expected; but it was remarkable that the second or loud sound seems more permanent in its characters and less subject to change or variation than the first or weaker sound. When the interval between them was longer, and the two sounds unusually distinct, it did not appear to us that the variation was due to a change in the second sound, but in the first.

Lastly, whilst we found that we could distinctly hear the two sounds over the situation of the fœtal heart, we observed the greatest difference as to the extent to which each was audible over the abdomen. What I have called the first sound, in the majority of cases could not be heard more than three inches in any direction from the situation of the fœtal heart; the second sound, on the contrary, was audible to a very considerable distance, and in all cases was easily counted alone. From the experiments we made, I am convinced that in many of our investigations as to the existence of pregnancy, we have heard only this sound, and that, being satisfied with it as a sufficient evidence of that condition, we have either mistakenly coupled together two of these second sounds for the "double beat," which would justify the comparison to the ticking of a watch or the rhythm of the infantile heart; or, assuming that the sounds must be double, we have multiplied this sound by two (without hearing both), which will undoubtedly give the correct number of sounds per minute.

At the time that I was making the foregoing investigations in the Lying-in Hospital, it occurred to me to compare the sounds of the fœtal heart with those of the infant shortly after birth; and this inquiry I have carried to a considerable extent, both in the Hospital and among my private patients. I found that the rhythm of the sounds of the heart had quite changed, even in a baby an hour or two old. The two sounds were of equal strength and loudness, and divided the period of each pulsation equally, i. e., the rhythm was now 1· 2 3· 4. The second sound seemed much the same as before, somewhat louder, because heard under more favorable circumstances, but the great change seemed to be in the first sound, in its intensity and duration, and in the interval which divides it from the second sound. Except that the sounds are louder, they might now be pretty accurately compared to the ticking of a watch, and only that we can time them by the pulse, it might be very difficult to decide which is the first and which the second sound. Even as it is, it is not always easy, for the pulse at the wrist of a newborn infant is not always perceptible.

It now became an object of interest with me to ascertain how long this peculiarity of rhythm continued, and at what age it assumed the characters of the adult rhythm. I have taken every opportunity since of examining the hearts of infants of all ages. In all the cases yet examined under a year and a half old, I have always found the infantile rhythm: the sound equally loud, equidistant, and the intervals equal. In one child, a year and ten months

old, the two sounds had evidently approximated, and the first sound was the longer and stronger. At 3 years of age, the two sounds have in all cases had the character and rhythm they present in the adult.

These are the results of my investigations up to the present time; whether they may be confirmed or corrected by other observers, or whether they may be of any and of what physiological importance, time alone can show. If they are correct, it will be satisfactory to have even a small addition to our knowledge; if they are erroneous, I shall be the first to welcome their overthrow. I think it would be quite premature at present to attempt any explanation of the phenomena I have noticed; I am far more anxious to make sure of the facts; and my especial reason for bringing the matter before the profession so soon, is the hope of engaging others to test most carefully and rigidly the accuracy of my observations. Instead, therefore, of any theoretical explanation, or physiological or pathological inferences, I shall conclude by simply enumerating the deductions which my observations seem to me to justify.

1. That the pulsations of the fœtal heart range from 110 to 160 per minute, the average being somewhere about 136, and the audible sounds double, therefore ranging from 220 to 320.

2. That of the two sounds, the first is the weaker and less distinct; the second loud and distinct: the first audible only within a short distance of the fœtal heart; the second over a considerable extent of the uterine tumor.

3. That the rhythm may be expressed by dividing the entire period of a pulsation into four parts, and placing a dot at the right of the figures, according to the succession of the two sounds, as 1· 2· 3 4, and an accent over the louder sound.

4. That immediately after birth, the first and second sounds of the heart become equally loud and distinct from an increase in the first sound.

5. That the rhythm changes, and may be expressed thus 1· 2 3· 4.

6. That this peculiarity of the rhythm continues for about a year and a half, and then gradually changes to that of the adult, expressed thus: 1· 2· 3 4, with the first sound stronger and louder than the second.

March, 1855.—I have taken every opportunity of investigating this subject since the foregoing was read before the Dublin Obstetrical Society (in Jan., 1853), and I find no reason to alter the opinions therein expressed.—*Dublin Quarterly Jour. of Med. Science.*

ON THE IMPORTANCE OF ESTIMATING THE AVERAGE DURATION OF DISEASE.

BY FRANCIS MINOT, M.D.

[Communicated for the Boston Medical and Surgical Journal.]

A CORRECT estimate of the average duration of acute disease when uninfluenced by active medical interference, is of great importance

in determining the value of the treatment employed in any particular case. The want of such an estimate is one reason why so great a variety of remedies are vaunted by different practitioners in the cure of certain maladies; for when a disease has a tendency to run a certain course, the method employed often gets the credit of the cure which should be awarded to the natural tendency to restoration inherent in the system. The difficulties in the attainment of such an estimate are often very great. The physician, especially if he have an exaggerated idea of the powers of his art in the curing of disease, naturally feels a reluctance at trying the *experiment* of trusting his patient to the unassisted efforts of Nature; and even when the case is thus left to itself, there are certain conditions, such as the age, temperature, and circumstances of the individual, the character of the epidemic, the season of the year, and many other considerations, which must be taken into the account, in judging of the average duration, no less than the prognosis of the disease. Another difficulty arises from the impossibility of always ascertaining the exact commencement and termination of the affection.

Acute pneumonia is a disease, which, when uncomplicated, usually runs a definite course, and is easily diagnosticated; it would seem, therefore, to be peculiarly appropriate for investigations of this nature. The object of this paper is to invite attention to the subject, and to urge upon practitioners the importance of making careful observations upon cases of pneumonia, especially with regard to the duration, when the disease has not been subjected to much active interference, as the first step towards arriving at the best method of its treatment. In this inquiry it is of importance to note the age, sex, and previous health of the patient; the hygienic influences which surround him; the supposed cause of the attack; the extent of the disease, especially whether it be single or double; and its complication with other affections, or the reverse. The commencement of pneumonia is generally sufficiently marked by pain, with shivering and other constitutional disturbances, though in some cases, especially when it is the sequel of other maladies, its approach is so gradual that the moment of invasion is with difficulty determined. Its termination is much less easily ascertained. It is, in fact, impossible to say at what precise time the disease may be said to be finished, so gradual is the transition from a morbid condition to the healthy state. Indeed, according to Grisolle, after patients are apparently well, and able to resume their usual occupations without inconvenience, the majority of them have more or less cough; and a careful exploration of the chest proves that the lung has not entirely recovered its permeability. It becomes necessary, then, in making our observations, to fix upon some arbitrary point during the convalescence, as the period of recovery. That adopted by M. Louis (in his Researches upon the Effects of Bloodletting in some Inflammatory Diseases, &c.), is the time at which the patient begins to take some light nourishment, three days, at least, after the febrile action has ceased, although, in some

cases, before the local symptoms have disappeared. The same period is adopted by Grisolle, and also by Dr. James Jackson, in estimating the effects of bloodletting and tartarized antimony on the duration of pneumonia, in his appendix to Dr. Putnam's translation of Louis's work.

I would not be understood as recommending the physician to abandon all treatment in cases of pneumonia, in order to study the natural history of the disease. We believe that in many cases the duration may be abridged, the sufferings of the patient alleviated, and his life saved by active medical treatment. Yet there are many other cases in which there is no indication for active interference; where the only remedies required are such as cannot be supposed to shorten the period of sickness, although they may contribute much to the comfort of the patient. The recorded observations of such cases would be a valuable addition to our knowledge, by affording a basis for investigations of the effect of remedies. The following case may, perhaps, with propriety be subjoined, as an instance of rapid recovery of pneumonia, without active treatment.

Thomas Selden, a negro boy, aged 14, apprenticed to a tailor, had always enjoyed good health, and had not been particularly exposed to cold, though he had been in the habit of sitting on the curb-stone of the sidewalk during the evening, the weather having been warm for a few days before his illness. On the evening of May 14th, 1855, he was attacked with pain in the side and cough, with sweating. He was first seen on the 18th. At this time I found him lying in bed, with a hot, dry skin, and a pulse of 96. The tongue was moist, with a brownish coat. There was a frequent cough, causing great pain in the right side, as did also a long inspiration. The cough was accompanied by tough, gluey, bloody expectoration. The lower two thirds of the right chest were dull on percussion, and in the same region was an abundant fine crepitant râle, with distant bronchial respiration. On the left side the physical signs were normal. There was no appetite; moderate thirst; no sleep, on account of the pain and cough. He was ordered some spirit of nitrous ether, with solution of acetate of ammonia, a sinapism to the chest, and Dover's powder at night.

The next day (19th) he was better, though the pulse continued the same. The râles were rather larger, and the bronchial respiration more distinct. He had expectorated about four ounces of orange-colored, gluey sputa in twenty-four hours. On the 20th he was sitting up, at the time of the visit, and took some broth. His medicine was omitted. On the 22d, after sleeping well, he had an excellent appetite. The percussion was still dull in the lower right back, and there was a mixture of coarse and fine râles during inspiration, with occasional distant bronchial respiration. He expectorated, in twenty-four hours, two ounces of colorless sputa, the lower part being adhesive, the upper watery and slightly frothy.

On the 23d his pulse was 64, and he had beefsteak; on the

24th he walked out. His pulse on the 25th was at 60. There was still some dulness on percussion in the lower part of right back, and the respiratory sound was feeble, and occasionally tubular. There were no râles. The voice was somewhat resonant in the same place. I was called to him again on the 5th of June, and found him complaining of cough, pain in the side and sweating. He had exposed himself to cold while fishing. He was ordered quinine, oxide of zinc at night, and a stimulating plaster to right back. He recovered perfectly in a few days.

This boy may have been considered convalescent on the 23d, *nine* days after the attack, although he had some return of the symptoms twelve days afterwards, in consequence of an imprudent exposure. Evidently the shortness of the case could not be ascribed to the remedies taken. According to Grisolle, in forty-five cases which terminated favorably, convalescence commenced on an average at about the *tenth* day; it is remarkable, however, that this eminent authority does not treat specially of the duration of pneumonia. In thirty cases reported by Dr. Jackson, the average period was a little more than thirteen days. The average given by Louis is much larger. In these estimates no distinction is made by the writer of this paper respecting the age and condition of the patients, or the treatment employed. Until the average duration of a considerable number of cases, uninfluenced by active interference, is obtained, the treatment of pneumonia must remain to some extent unsettled.

MEDICAL AND SURGICAL EXPERIENCES AT THE HOUSE OF INDUSTRY.—NO IV.

BY C. E. BUCKINGHAM, M.D., FORMERLY PHYSICIAN TO THE INSTITUTION.

[Communicated for the Boston Med. and Surg. Journal.]

Fracture of the Base of the Brain.

G., AN American, aged 48, of intemperate habits, fell about his length backward down the stone steps of the Franklin House, striking his head upon the steps. He was taken up insensible, having arterial hæmorrhage from the right ear. This was between 11 and 11½ o'clock on the night of October 16th, 1850. He was carried to the House of Industry Hospital, the next morning, where I saw him at 10½ A.M.

Condition.—On the left side, with knees drawn up. Surface cool and feet cold. Insensible to tickling, but roused by severe pinching. Unable to answer questions. Respiration regular, 13 in a minute, and not stertorous. Pulse 50, small and intermitting. Has been bleeding from right ear and nostrils, but the hæmorrhage has stopped. There is an external scalp wound, nearly straight, horizontal, about 2½ inches long, on the right parietal protuberance, passing down to the bone, which is not, however, denuded. No frac-

ture is to be distinguished. Right eye nearly closed. Pupil about one eighth of an inch in diameter, irregular, contracting slightly when the lid is raised. Left eye perfectly closed. Conjunctival membrane congested. Left pupil larger than the right, irregular and motionless. Opening the left eye rouses him, but only to make a slight movement of the left arm and hand. There is divergent strabismus of the right eye.

October 18th, 10, A.M.—Flexors of right forearm contracted. The arm lies across his chest and is not easily extended. Right leg extended and rigid. The muscles on the right side of the body do not contract when the skin is irritated; those of the left side do, if either side be pinched. When any part of his body is irritated, his left hand seizes and pulls his penis violently. Urine and fæces are passed involuntarily. Pulse 52, regular, but small. Slight hæmorrhage from right ear. Pupils irregular and insensible to light. The pupil of right eye very much contracted; that of left about three times as large. Right eye divergent and oscillating.

19th.—Respiration 38 and snoring. No puffing of lips. Pulse 84, small and regular. Skin hot. Face rather livid and turned to the left side as he lies on his back. Eyes as at last report. Right arm across breast, and wrist strongly flexed. The muscles of the arm and leg offer less resistance than before. General sensibility more impaired.

20th, 9, A.M.—Respiration 46. Pulse 120, regular and small. Right pupil more contracted. Left eye as at last report. Discharges involuntary. No amount of irritation produces muscular contraction. The tendency of the left hand to the penis continued till last night. Died at 8, P.M.

Autopsy at 10, A.M., October 21st. Scalp removed. A fracture is found to extend from the right meatus auditorius about one half an inch upward, then backward, following a divided course, corresponding internally to the groove of the middle meningeal artery. There is a similar fracture on the left side. No depression. Skull cap removed. The internal fractures follow upon the skull described for the external. Dura mater on the left side raised by clotted blood underneath. Convolutions flattened. Laceration of the middle lobe of the cerebrum on the left side, in and about which there are about ʒ ij. of coagula. Brain in this neighborhood soft and pasty. Elsewhere normal. After removal of the contents of skull, the following lines of fracture were seen. From the right meatus auditorius along the course of the length of the petrous portion of the temporal bone to the sella turcica, behind which it passes. A branch of the fracture passes anteriorly across the sella turcica, behind the anterior clinoid processes, and uniting with the other branch on the left of the sella turcica. After junction of the two lines, the fracture passes along the petrous portion of the left temporal bone, but just before leaving the skull, the direction is slightly downward, so that the fracture passes behind the mastoid process. The fractured sella turcica was removed

with the forceps. But for the ligamentous attachments to the spinal column, the back of the head could have been easily pulled off.

Hospital Reports.

MASSACHUSETTS GENERAL HOSPITAL.

Neuralgia.—(Under care of Drs. Shattuck and Storer.) May 1st.—Mary F. left home in Nova Scotia two years ago, and has been employed as domestic in this city since—subject to more exposure to wet and cold than previously. A few days after such exposure, on an occasion about a year ago, she was attacked with soreness and pain in limbs, considered at the time rheumatism. For last six months she has done but little work, and has suffered much from a sensation of internal heat, extending to extremities, alternating with pain of severe, and, at times, shooting character. Person apparently emaciated, countenance thin, and expression of habitual bodily discomfort. Pain is now principally confined to left hip and leg and right arm, although not at all constant. No excessive perspiration, no redness nor stiffness of parts complained of. Abdominal and thoracic viscera healthy. Menstrual function natural, with exception of occasional dysmenorrhœa.

For first month she was treated mostly with tonics and cathartics. Pain continued, however, unabated, with the peculiar sensation of internal burning above mentioned, and aggravated in damp weather. Muscular soreness often followed cessation of paroxysms of pain.

May 30th.—Complained of sensation of heat extending from iliac regions down both thighs.

June 3d.—Was suffering from dysmenorrhœa, relieved by camphor and opium.

5th.—Constant uneasiness in right arm, with inability to move it freely. R. Tr. canthar., tr. capsici, p. e. to limb twice daily.

6th.—Uneasiness complained of yesterday somewhat relieved.

7th.—Made no complaint of arm, but spoke only of pain and heat in hips and thighs. Apply tr. aconite.

From this time up to 12th, pain continued very severe, and shifting from one limb to another rapidly. Veratrine ointment and a liniment of equal parts of ol. olivæ, ol. terebinth. and tr. opii were applied to the parts affected, without relief. On the 11th a blister four inches square was applied to hip.

12th.—Expressed herself relieved from pain by application, but still had intolerable burning in sacrum and hips. Gaining no relief, on the 13th tr. aconit. fort., gtt. vj., was administered three times a-day.

On 17th there was no diminution of pain, but the medicine had produced its specific effect, manifested by burning at epigastrium and tingling sensation in throat. It was therefore omitted, and potassæ iodid., gr. vj. three times daily substituted.

July 1.—Patient had not improved since last report, although the suffering had been removed temporarily by application of blisters and exhibition of narcotics. Morphiæ sulph. had also been applied to denuded cutis. Trial was then made of Corrigan's hammer. The disc of iron was heated until the heat was transmitted to the handle, and then applied with sharp, quick

strokes to fore-arm along course of nerves, producing much external irritation without vesication.

3d.—Said she suffered pain from shoulder and arm, but none below elbow since application.

5th.—Again relieved in fore-arm by application.

7th.—Suffered very much during night from pain in lower extremities. Electricity to spine and along limbs.

8th.—Much relieved since application of remedy. Suffered considerable shooting pain in face last night. Treatment continued.

12th.—Spoke of tingling sensation in ball of right thumb while current was passing through it, and said that three years ago a needle was broken off in that part and had never been removed. Considerable local trouble was produced by accident, but she had almost forgotten the circumstance till the peculiar sensation last evening. The thumb was found somewhat tender on deep pressure in portion complained of.

18th.—Thought she was decidedly improving under application of remedy.

22d.—Generally better, though for two hours in morning suffered extremely.

31st.—Complained only of universal soreness, for which tr. sapon. et opii was prescribed.

August 4th.—Complained principally of left hip. Diarrhœa of several days duration commenced at this time.

11th.—Had felt for a week or two back none of that constant heat which had been more annoying even than the pain. No pain for a week past, and very marked improvement for the last month.

Discharged by request. J. C. White, *Medical House Pupil.*

Empyema—Paracentesis—Spontaneous Opening—Death. Case I.—D. O'H., an Irish laborer, 20 years of age, entered the Hospital on May 8th, under the care of Dr. Shattuck. In October, 1854, while working in an iron foundry, where he was much exposed to cold and wet, was attacked with cough and slight hæmoptysis, which, though the only symptoms mentioned in the record, were probably accompanied by others, as he was confined to the house six weeks, and was unable to work during the winter. He resumed his work for a short time in April, but his health again failing, he entered the Hospital. When first seen, he was sitting up. The cough, though slight, was reported to have kept him awake; the expectoration was serous and scanty. Tongue with a thin whitish coat. Appetite not strong. Bowels rather costive. Pulse, after examination, 104, small, regular. On examination of the chest there was found dulness on percussion over the whole of left side, with absence of the respiratory murmur, which was replaced in the supra-spinous fossa by a bronchial sound. The respiration upon the opposite side was loud and distinct. Notwithstanding the use of diuretics and cathartics, and the application of a number of blisters, the physical signs did not materially improve, feeble respiration and a mucous rale being heard only under the clavicle. The pulse continued rapid. The cough, though slight, persisted and was accompanied by the expectoration of a little aerated serum, or muco-purulent matter, at one time slightly tinged with blood.

On June 2d Dr. Perry took charge of the case, applied another blister and prescribed a pill composed of opium, squill, digitalis, and aloes, to be taken twice daily. Still there was no amendment; and on June 5th, the diseased side measured an inch and a half more than the other; the in-

tercostal depressions were obliterated; the physical signs remained the same; and some pain was felt in the affected part. Paracentesis was therefore performed by Dr. Bowditch, who removed ℥xxvj. of thick pus, making use of a small exploring trocar and the air-pump. Relief was afforded by the operation; the motion of the ribs became more free; the pain diminished, and on the 9th, bronchial respiration was heard in front over the lower part of the chest—while behind, the respiratory sound had a more vesicular character. But nature had been anticipated only a short time, for, on the 22d, there formed spontaneously in the side, between the 9th and 10th ribs, an opening, from which Oj. of pus escaped. The discharge gradually diminished, and the opening closed on the 29th, but was re-placed by another, which formed two days afterwards, an inch and a half below, communicating with the first by means of a sinus. From the last opening, Oss. of pus or more escaped daily. In the mean time, though there was no marked fever, and but little pain and cough, the appetite and strength failed, in spite of the administration of quinine and stimulants, which had been substituted for the pill soon after the operation; the pulse grew more rapid and feeble; aphthæ formed in the mouth; the discharge became quite offensive, and, exhausted by it, he died on July 29th. A probe, five inches in length, did not reach the bottom of the cavity.

No autopsy was allowed.

Pleurisy—Paracentesis—Recovery. Case II.—J. W., a native of Fayal, 30 years of age, had been a seaman for 18 years. In June, 1854, while at the mines in California, was attacked, after exposure to cold, with a dry cough and sharp pain in left chest, which lasted a fortnight, accompanied by considerable fever. In September he entered a hospital in San Francisco, and remained there four months, being treated with blisters, &c. In January, 1855, he first noticed, in the left hypochondrium, tenderness and pain, the latter being increased by a full inspiration and running up along the line of the sternum. At the same time dyspnœa manifested itself, and continued until his entrance into the Hospital on June 6th. When first seen, he was sitting up, appearing quite comfortable, and with a slow regular pulse, but when in the recumbent posture he was obliged to lie upon the left side. Upon examination of the chest, the left side was found perfectly flat, anteriorly and posteriorly, and no respiratory sound was heard except at the apex, where it had a bronchial character. The intercostal spaces were more prominent than on the other side.

A blister was applied to the side, and he was ordered to take, every six hours, a pill composed of antimony gr. 1-8, calomel gr. j., digitalis gr. 1-2, opium gr. 1-3. The mouth becoming sore, in four or five days, the calomel was omitted. The blister was repeated several times. Under this treatment the quantity of urine decidedly increased, and in a few days respiration was heard lower down on the affected side, though still of a bronchial character. The amendment, however, was only temporary, for on the 30th of June the fluid again began to accumulate, and on the 6th of July the diseased side had become perfectly flat. The heart was dislocated; and bronchial respiration was heard from the apex of lung to the spine of the scapula behind, and to a point an inch above nipple in front. The sense of oppression in the chest had increased, the affected side was half an inch larger than the other, and the lower intercostal muscles were distended. There was no fever, but little cough, and slight muco-purulent expectoration.

As the strength was declining it was now thought best to resort to the operation of paracentesis, which was performed by Dr. Bowditch, who drew off, with the instrument used in the other case, Oiij. of thin yellowish serum, when he was obliged to desist on account of the pain and violent cough excited by the removal of the fluid.

On the following day, respiration, nearly vesicular in its character, was heard anteriorly and posteriorly, though not at the base, and on a full inspiration a mucous rale was detected. The rale increased to such an extent that in two days it was heard over the whole chest, but, though persisting till the patient's discharge, was gradually re-placed by healthy respiration. Though the cough became somewhat more urgent, and the pain, which, previous to the operation, had been very slight or absent, increased to such an extent as to call for a sinapism many days after, the patient constantly improved until July 22d, when he raised, during a paroxysm of cough, about ℥ij. of fresh blood. Tinct. opii gtts. x. and spts. terebinth. gtts. xx. were ordered to be taken every hour until relief. The hæmoptysis recurred to a small amount during the three or four following days, when it ceased. From this time the cough diminished, and he improved so much that he was discharged on August 6th, when the respiration was heard over the whole chest, still bronchial in the upper part, but more nearly resembling the vesicular than at a previous examination. A muco-crepitant rale was still heard at the top of the shoulder.

Remarks.—Although the character of the accumulated fluid was different in these cases, and one of them terminated fatally, the indication in each was the same, and they both show the value of the operation, which has attracted so much attention during the last few years. Nature herself was attempting, and finally accomplished, what art did much more easily. But the lung, being evidently bound down by thick false membranes, could not rise to fill the vacuum formed by the removal of the pus, which again accumulated, as the most natural product of a membrane, which had previously secreted it. The pleural cavity then formed an immense abscess, which continued to discharge until the patient was exhausted.

In the other case the most natural termination would have been by absorption, but, owing to the tension of the membrane or some other cause, it did not take place. Relieved, by the operation, of the burden which had pressed it down, the lung, which was still capable of performing its duties, at once unfolded itself, its expansion being accompanied by the usual cough and distress caused by contact with the air, which had been so long excluded, or by the distension of the compressed tissues. Though it is impossible to say whether the hæmorrhage depended upon a disease, which will, at some future time, declare itself, it is reasonable to assume that it was entirely owing to the expansion of the lung, by which the pressure of the blood upon the vessels would be decidedly increased.

Another important fact, in connection with these cases, is, that in the one which terminated fatally, the existence of tuberculous disease was suspected, from the character of the countenance, pulse, and physical signs, while in the other no such symptoms presented themselves.

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. BY WM. W. MORLAND, M.D., SECRETARY.

April 9th.—*Tin Tumbler taken from a patient, post-mortem, and which had been introduced by him into the rectum, for the purpose of reducing prolapsus of that intestine.*—The tumbler was sent to the Society by Dr. John O. Stone, of New York city, and was presented, and the account of the case read, by Dr. H. O. Stone, of Boston. The following is an abstract of the detailed description of the case, read by Dr. S., and which was published in the Boston Medical and Surgical Journal of May 14th, 1834.

The patient introduced the tumbler on the 4th of April, 1834, causing its entrance into the bowel by sitting upon it. The tumbler being drawn upwards with the returning intestine, attempts were made by the patient to extract it, with his fingers, and by means of "shoe-maker's forceps." "With these he had considerably broken and flattened the edge of the base, or rim, of the tumbler, and forced it beyond the rectum, into the colon." It was found in this situation by the physician who was summoned, Dr. George Moodie, of North Andover, Mass. Dr. M. introduced his "hand and forearm into the rectum, seized" the tumbler and "made a powerful" but unsuccessful "effort to extract it." The blunt hook was next tried, without extracting the tumbler, although it was brought down so that "it could be seen." "Owing to its flattened state, it hitched in the plicæ of the intestine." Several physicians and surgeons were called in consultation; among others, Dr. Joseph Kittredge, of Andover, and Dr. Whiting, of Haverhill. No efforts at extraction by the hook or the fingers were of any avail; although the tumbler was brought into view and seized, powerful efforts being again made to disengage it from its situation. One of the practitioners again introduced his hand, but could not bring the tumbler away. The patient asked to have his abdomen opened, and the foreign body thus removed. "He was told that this would produce certain death." A proposition to divide the levatores ani was negatived by Dr. Kittredge, who feared fatal hæmorrhage. "The patient lived about three days after this. His tongue sloughed, and there was gangrene of the large intestines. The tumbler was extracted after death: it measured 3½ inches in length, 3½ inches in width, in the direction of the flattened part, and 2 inches across its base; it would hold nearly three gills." It is preserved in the Society's Cabinet.

[Although it is difficult to judge of a case without seeing the patient, it would seem as if the judicious use of proper instruments might have obtained the extraction of this tumbler during life. The cautious and efficient insertion and action of forceps suited to compress it, and thereby lessen its calibre, would appear to have been the means indicated. Extraction would have probably been effected, as, by the diminution of the size of the foreign body, it would cease, in certain parts, at least, to impinge upon, and be retained by, the folds of the intestine. The *action of ether* on the system, had it been known at the time of this accident, would almost certainly have enabled a practitioner of ordinary ability to succeed in such an operation.—Secretary.]

April 9th.—*Carcinoma Uteri.*—Dr. Storer reported the following case. The patient, Mrs. B———, was first seen by him in August, 1854. For the last two years she had suffered from a sensation of bearing down, with pain in the uterine region; and for several months she had had hæmorrhage, at intervals, by which she was very much exhausted. Dr. Storer

was consulted for the palliation of this latter symptom. On examination *per vaginam*, it was found that the neck of the uterus was exceedingly firm, scirrhous, and the organ itself immoveable. The *os uteri* was patulous, and blood exuded from it. Patient complained much of darting pain, passing through from above the pubes to the rectum. The act of defæcation caused great suffering. The hæmorrhage gradually abated under the local application of an infusion of matico and ergot; in a few weeks it entirely subsided, and did not again return. After the bleeding was checked, she rallied a little, but soon again faltered, wasted away, and died in February, 1855.

During the latter portion of her life-time, she suffered but little of the lancinating pain characteristic of her disease, but endured great distress at the time of her alvine evacuations, which latter could not be effected without assistance. An incessant, insufferable desire to micturate, accompanied with much distress, existed for weeks previous to her death, and was relieved only by the constant exhibition of opiates.

The *post-mortem* examination, which presented several interesting points, was made by Dr. CALVIN ELLIS, who has furnished the following account of the appearances observed.

Great emaciation. Surface of right *pleura* slightly adherent posteriorly. *Lungs* normal, but anæmic. *Heart* rather small; external surface œdematous. Oj. of yellow serum in peritoneal cavity. *Liver* olive-colored; flaccid. *Spleen* normal.

Upon the *peritoneal* surface just above the brim of the pelvis, were several firm, white nodules, from two to four lines in diameter, which, on incision, presented the usual appearances of scirrhus. A similar mass was also hanging from the upper part of rectum. Upon the fold of peritoneum, lying between the rectum and uterus, was a circumscribed patch of lymph adherent to the surface, but the membrane immediately around was quite healthy.

On making an incision through the *vagina* and *uterus*, a little lymph was noticed upon the surface of the former, which was in other respects sufficiently healthy, below a line drawn through two points, one anterior, half an inch from vulva, the other posterior, three inches from the same. Above this line the mucous membrane, for a short distance, was raised by a dense, yellowish-white deposit, which, beyond, was replaced by a ragged, dirty-brown, ulcerated surface, beneath which was a firm, whitish, scirrhous deposit connected with a large mass, several inches in diameter, which projected towards the left side of the pelvis. The neck of the uterus had been destroyed. The remaining portion was two inches in length and half an inch in thickness, mostly dense and fibrous, but in the part immediately adjoining the diseased surface were traces of the same morbid growth before described. The *bladder* was much contracted, Protruding into its cavity, posteriorly, was a firm, nodulated mass, the surface of which was of a delicate pink color. Below this, a free communication existed between the bladder and vagina. Externally, the adventitious growth rose above the fundus of the organ as a solid conical mass, with an irregular, reddish summit. The pelvic organs were firmly bound together, and the cavity itself nearly filled with the morbid deposit, which every where presented the character of ordinary scirrhus. Upon the fundus of the uterus, and in one of the fallopian tubes, were a number of small serous cysts. The *rectum* was not affected.

The pelves of the kidneys and the ureters were dilated by the accumulation of urine, owing to the obstruction caused by the disease below.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, AUGUST 23, 1855.

FREQUENCY OF DEATHS BY DROWNING.—PROPER PRECAUTIONS WHILE BATHING.—OVER-EXERTION IN SWIMMING.

The very large number of deaths by drowning, recorded in the papers during the present season, must have been generally remarked. We certainly do not remember a summer when so many have thus perished; and, what is quite as noticeable, the majority seem to have been adults, and in many cases the would-be rescuer sank with the one he intended to save.

Death by drowning, although probably easy, so far as regards mere pain, is always peculiarly distressing. Its victims, whether bathers or excursionists upon the water, are usually in high health and spirits, and the shock of the news to their friends, or the announcement of the awful event by the bringing of a lifeless and swollen body to the home it had just left so gaily, is inexpressible.

We have never read a more melancholy account than that which chronicles the drowning, at Coney Island, of Rev. Mr. Elliot and his daughter, of Williamsburg, and which appeared in the New York Daily Times. This instance, and many similar ones, might have been prevented by the wise provisions mentioned in an article in the same paper (July 28th). We quote the following in reference to the "Societé Humaine" of "Boulogne sur Mer, on the northern coast of France;" it were well if every sea-side resort, especially where the surf is high, and the under-tow proportionately strong, were as fully supplied with the means of rescue. The writer in the "Times" to whom we allude, says, speaking of Humane Societies, formed in reference to saving the lives of bathers:—"One of the best of these is the 'Societé Humaine,' of Boulogne sur Mer, on the northern coast of France. This most benevolent and disinterested association is sustained by the French and English residents of this ancient city, and is the instrument, every year, of preserving the lives of many of those who resort thither from all parts of England and France, for the purpose of bathing. Some idea of their operations may be gathered from this brief description:—A commodious house is provided, containing several boats mounted on wheels, which can be launched at a moment's notice, as well as other apparatus for saving life.

"During the hours for bathing, there are always two boats lying a little off shore, equipped with grapnels, lines, corks, and other ingenious contrivances; each boat manned by two efficient watermen, ready for any emergency. These 'gardes des bains' are always on the watch, cautioning those who imprudently venture too far, and ready to rescue any adventurous swimmer who may be overcome by fatigue. Never a season passes but some are rescued from a watery grave by these watchful guardians.

"Similar measures are adopted at all the bathing towns on the French coast, and also upon the English coast. When we compare the recklessness and want of care which is evinced in this country, we can hardly resist the conclusion that here human life is valued at a lower standard.

"The recent calamity, which has resulted in the death of a father and daughter, is the consequence of public neglect. Let us remedy the evil before more households are made desolate by similar events."

Having lately referred to bathing in its hygienic aspects, it may not be amiss to utter a word of warning, in view of the unprotected state of most of our public watering places, and also in respect to the carelessness of parents and others entrusted with the supervision of children, incompetent to save themselves or their companions in the moment of danger. Boys are very apt to exhaust their strength by swimming for too long a time; and cramp of the muscles of the legs, arising either from fatigue or the coldness of the water, often disables them. If thus attacked, beyond their depth, they must sink unless efficient aid is at hand. Young and thoughtless boys should never be allowed to bathe unaccompanied by some person to warn them from venturing too far, or swimming so long as to fatigue them; and who, in the event of accident, could save them from drowning. There are countless instances in which life has been sacrificed through neglect of such precautions. The legs of bathers are occasionally entangled in coils of sea-weed too strong for them to break; or a boy may wade out till just at his depth, get his feet so firmly fastened in soft, but adhesive mud, that he becomes frightened, and unable to exert himself; his head goes under, and, through his own confusion, and the inability or absence of others, he is lost. An incident of this sort is related in a late number of the New York Times, and which also shows the recklessness and wilfulness of boys in the matter of bathing, even in forbidden waters. The account we refer to is as follows;—rescue was effected.

"*Bathing in the River.*—This practice is extensively indulged in along the river front, notwithstanding the stringent ordinances prohibiting it. On Saturday some boys went in to swim at the foot of Harrison street. One of them, named Patrick Doyle, managed to get a considerable distance from shore, where he stuck fast in the mud. William Shannon went to his aid, and kept his head above water until relieved by officers Reynolds and Holbrook, who succeeded in getting him on dry land, but in an insensible condition. He was resuscitated and conveyed to his home."

If a wholesome terror could be instilled into inexperienced and reckless bathers, life would be often preserved; there is scarcely a daily journal but has its record of deaths by drowning. A properly managed swimming school is always a boon to the community, and might almost enable parents to say, without Hibernian phraseology, "You are not to go into the water (*i. e.*, harbor or river), until you know how to swim;"—(*i. e.*, in the safety of the swimming school.)

It is well known that there is one popular establishment at the west part of the city, at which quite a large number of boys are instructed in swimming, every season, and where any one can enjoy the luxury of bathing, at a moderate rate. Were there other similar schools here, great advantage would be derived from them; and we trust to see thorough attention paid to this important subject.

NEW WORK BY DR. JAMES JACKSON.

It gives us great pleasure to announce that Dr. James Jackson is about to favor the profession and the public with a volume containing some of the fruits of his long medical experience. It is to be in the form of Letters addressed to a young Practitioner, and cannot but be most acceptable both to young and old practitioners every where, who know what reliance they can place on his admirable fidelity and capacity as an observer, and his skill in the treatment of disease. If we have received a correct impression of the promised work, it is to have so much of the familiar and popular character,

that it will be a valuable consulting manual in some of the more common diseases, to the invalid, as well as to the physician. The author's name is too well known in this community and in this section of the country to require more than the announcement of such a work from his hand to insure its eager welcome among us. Wherever this notice goes, we hope it will be learned with pleasure that this eminent practitioner is about to give a permanent place to many of the results of his experience.

THE YELLOW FEVER AT PORTSMOUTH, VA.

We are surprised to notice, that, notwithstanding the almost universal opinion of medical men that yellow fever is not, at least to any extent, or under ordinary circumstances, contagious, so great a panic prevails in the neighborhood of Portsmouth and Norfolk, Va., that no communication with those places is allowed by New York, Philadelphia, Baltimore, Richmond and other cities, and the sufferings of the sick are greatly increased by the want of proper comforts and attention, and by the destitution caused by the suspension of business, and consequent want of employment of the laboring classes. We extract the following admirable remarks from an article on the subject in the Daily Advertiser of Monday.

"But it is painful to perceive that the sufferings of the unhappy population who are obliged to remain exposed to the contagion of disease are cut off from the means of relief, not only by the flight of their more fortunate neighbors, who are able to seek healthy residences at a distance, but by a very unnecessary panic, which attempts to cut off all communication between them and the healthy parts of the neighboring country. It is surprising that after so much experience of the nature of this disease, in almost all parts of the United States, its character, and the real danger to be apprehended from it, is so little understood. In the first place it is often overlooked, and such appears to have been the case in the present instance, that the seeds of the disease are ordinarily confined to a very limited locality, and it is therefore entirely unnecessary for the population of the diseased city residing in parts of it beyond the *diseased district*, which may in most cases be distinctly defined, to seek safety in flight."

"Another fact in regard to the disease is equally important, viz., That persons removing from the central point of the most malignant infection to a place in health never convey the disease with them in their persons, with the power of communicating it to persons beyond the limits of the infected district."

Communications received.—Cases of Albuminuria, occurring after Scarlatina, with Remarks, by John Ware, M.D. (Will appear in our next number.)—Case of Fracture of the Skull.—On Uterine Pain and Hemorrhage after Accouchment, translated from the French of Dr. Liegard, of Caen.—An account of the illness of the Hon. Abbott Lawrence, with the results of the Autopsy, by his attending physician, will appear in our next.

Died—At Washington, D. C., 12th inst., Dr. Henry Lee Heiskell, Surgeon U. S. Army.

Deaths in Boston for the week ending Saturday noon, Aug. 18th, 109. Males, 53—females, 56. Accidents, 3—inflammation of the bowels, 2—congestion of the brain, 1—consumption, 14—convulsions, 4—cholera infantum, 18—cholera morbus, 2—croup, 1—cancer, 1—dysentery, 18—diarrhœa, 4—dropsy, 5—dropsy in the head, 3—infantile diseases, 8—epilepsy, 1—typhoid fever, 1—hooping cough, 3—disease of the heart, 1—intemperance, 2—congestion of the lungs, 1—old age, 1—palsy, 1—inflammation of the stomach, 1—scrofula, 2—smallpox, 2—suicide, 1—teething, 3—thrush, 1—tumor, 1—unknown, 3.

Under 5 years, 62—between 5 and 20 years, 10—between 20 and 40 years, 17—between 40 and 60 years, 9—above 60 years, 11. Born in the United States, 81—Ireland, 18—England, 3—British Provinces, 3—Germany, 3—Scotland, 1.

Use of Lime-Water in making Bread.—To neutralize the deterioration which the gluten of flour undergoes by keeping, bakers add sulphate of copper or alum with the damaged flour. Professor Liebig, however, has conceived the idea of employing lime, in the state of solution, saturated without heat. After having kneaded the flour with water and lime, he adds the yeast, and leaves the dough to itself; the fermentation commences, and is developed as usual; and if we add the remainder of the flour to the fermented dough at the proper time, we obtain, after baking, an excellent, elastic, spongy bread, free from acid, of an agreeable taste, and which is preferred to all other bread after it has been eaten for some time. The proportions of flour and lime-water to be employed are in the ratio of 19 to 5. As the quantity of liquid is not sufficient for converting the flour into dough, it is completed with ordinary water. The quantity of lime contained in the bread is small—160 ounces of lime require more than 300 quarts of water for solution; the lime contained in the bread is scarcely as much as that contained in the seeds of leguminous plants. Professor Liebig remarks, that "it may be regarded as a physiological truth, established by experiment, that corn flour is not a perfectly alimentary substance; administered alone, in the state of bread, it does not suffice for sustaining life. From all that we know, this insufficiency is owing to the want of lime, so necessary for the formation of the osseous system. The phosphoric acid likewise required is sufficiently represented in the corn, but lime is less abundant in it than in leguminous plants. This circumstance gives, perhaps, the key to many of the diseases which are observed among prisoners, as well as among children whose diet consists essentially of bread. The yield of bread from flour kneaded with lime-water is more considerable. In my household, nineteen pounds of flour, treated without lime-water, rarely give more than twenty-four and a half pounds of bread; kneaded with five quarts of lime-water, the same quantity of flour produces from twenty-six pounds six ounces to twenty-six pounds ten ounces of well-baked bread. Now as, according to Heeren, nineteen pounds of flour furnish only twenty-four pounds and one-half ounces of bread, it may be admitted that the lime-water bread has undergone a real augmentation."—*Dublin Medical Press*, April 25, 1855, from *Chemist.*

A Singular Case—A Ball Lodged for Fifty Years.—There has just died, in the village of Reindorff, in France, in his seventy-fifth year, a veteran of the French army, M. Peter Klein, who, at the battle of Austerlitz, on the 2d December, 1805, was struck by a Russian musket-ball, which lodged in the left temple, just above the ear, and remained there until the day of his death, a period of nearly fifty years, without having caused him any pain, or at all affected his intellectual faculties. After the death of M. Klein, his family, to whom he had bequeathed this ball, to be preserved as a souvenir of his campaigns, had it extracted by Dr. Backe, a surgeon of Bonn, who performed the operation by means of trepanning, so that the ball remains surrounded by a ring formed by part of the skull. The ball, on the side which touched the brain, is covered with a hard skin, and on the other side with a skin similar to that on the outside of the head. The brain had not been at all injured, nor was there any appearance of any fracture in the skull near the spot where the ball had lodged. The medical men express their astonishment that a foreign substance could have remained so near the brain without the intellect of the person being somewhat affected.—*N. Y. Med. Times.*

Transmission of Scabies from the Lion to Man.—M. Bourguignon, who is well known by his entomological researches, has just read a paper before the Medical Society of Paris, on the *acarus* found on different kinds of animals. From numerous experiments, the author concludes that itch is not transmissible from one animal to another of a different kind, and it would seem that each species has its own proper acarus. But the rule has lately been found not to be universal, for the author has just come in contact with a case of transmission of scabies from the lion to man. This phenomenon has been explained by the fact that the acarus of the lion is quite analogous to that which takes its abode upon the human species. Thus the lord of the creation and the most exalted amongst the lower animals, seem to be infested with the same parasite.—*Dublin Med. Press.*